



Appendix B

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: LED Ceiling Lamp

Test Model: US-CL12B-1

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Bill Zhu
Supervised by:	Li Huan



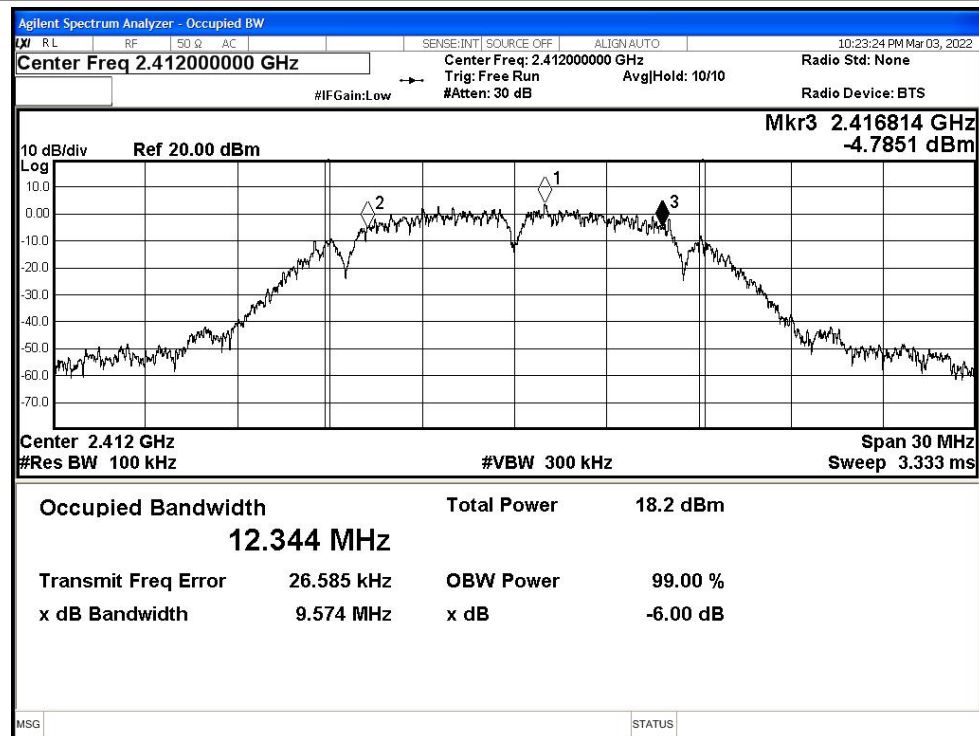
B.1 6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.574	0.5	Pass
NVNT	b	2437	Ant1	8.624	0.5	Pass
NVNT	b	2462	Ant1	8.533	0.5	Pass
NVNT	g	2412	Ant1	16.317	0.5	Pass
NVNT	g	2437	Ant1	16.348	0.5	Pass
NVNT	g	2462	Ant1	15.413	0.5	Pass
NVNT	n20	2412	Ant1	17.282	0.5	Pass
NVNT	n20	2437	Ant1	15.835	0.5	Pass
NVNT	n20	2462	Ant1	16.251	0.5	Pass

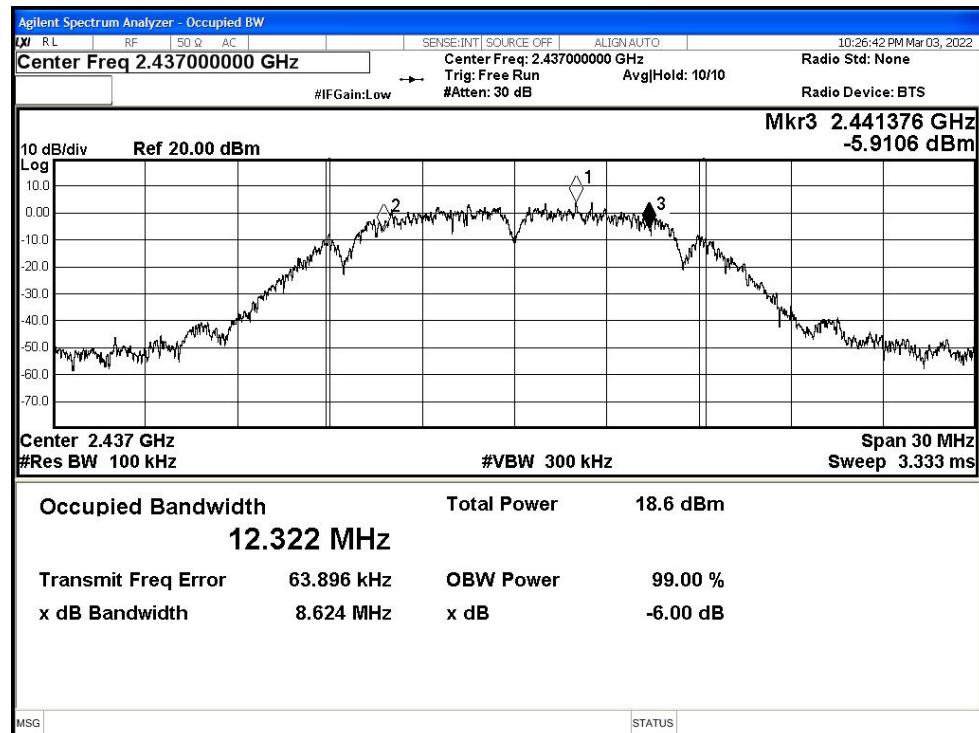


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

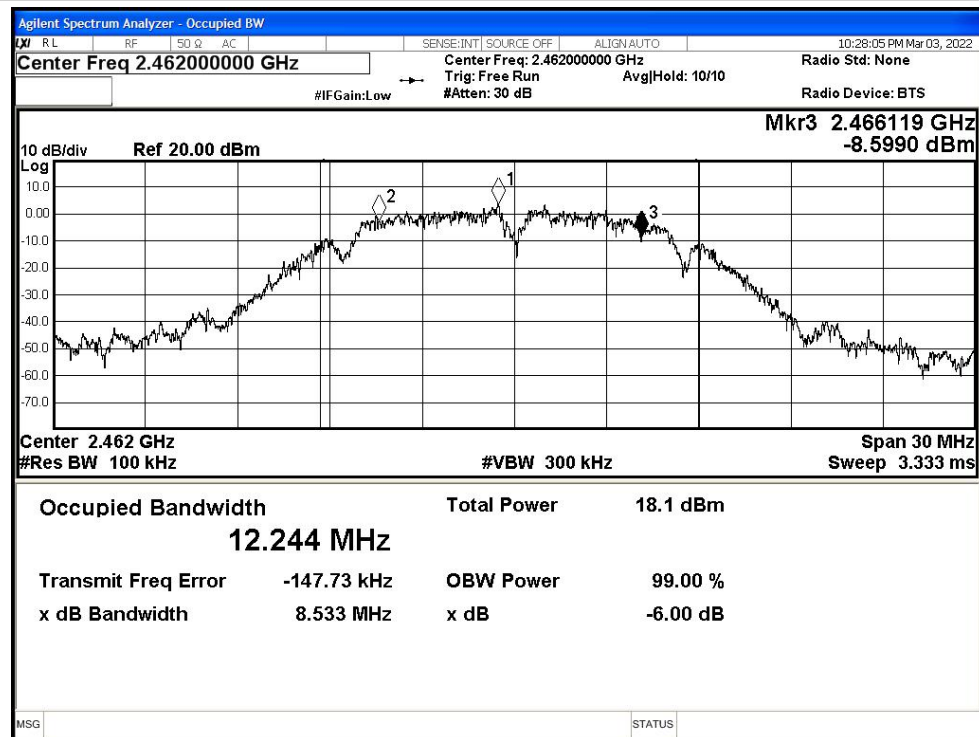


-6dB Bandwidth NVNT b 2437MHz Ant1

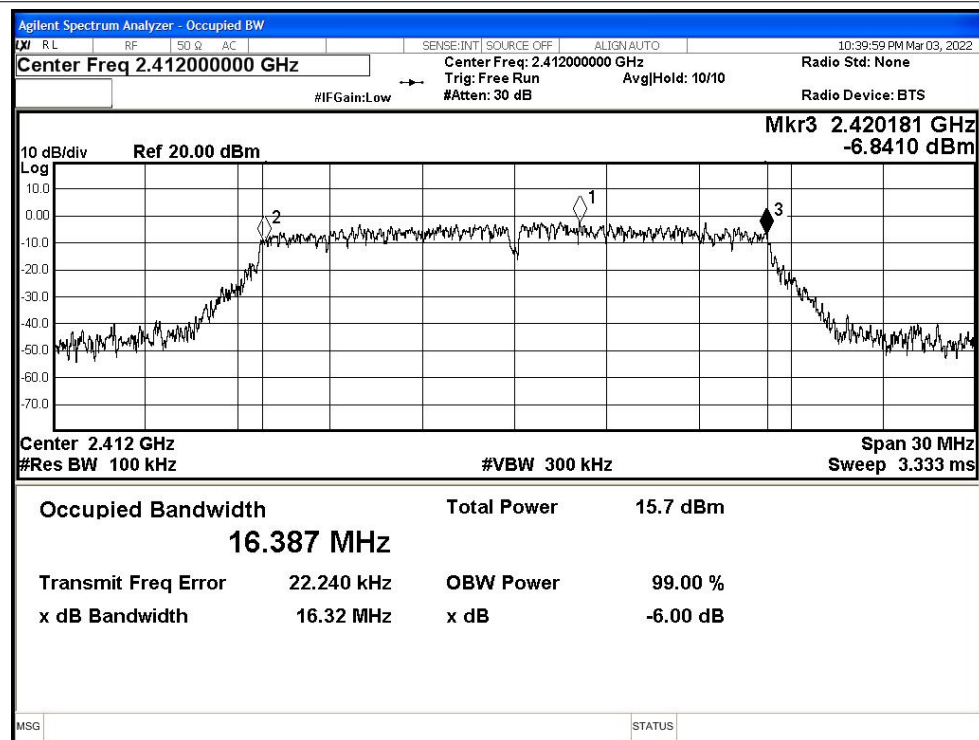




-6dB Bandwidth NVNT b 2462MHz Ant1

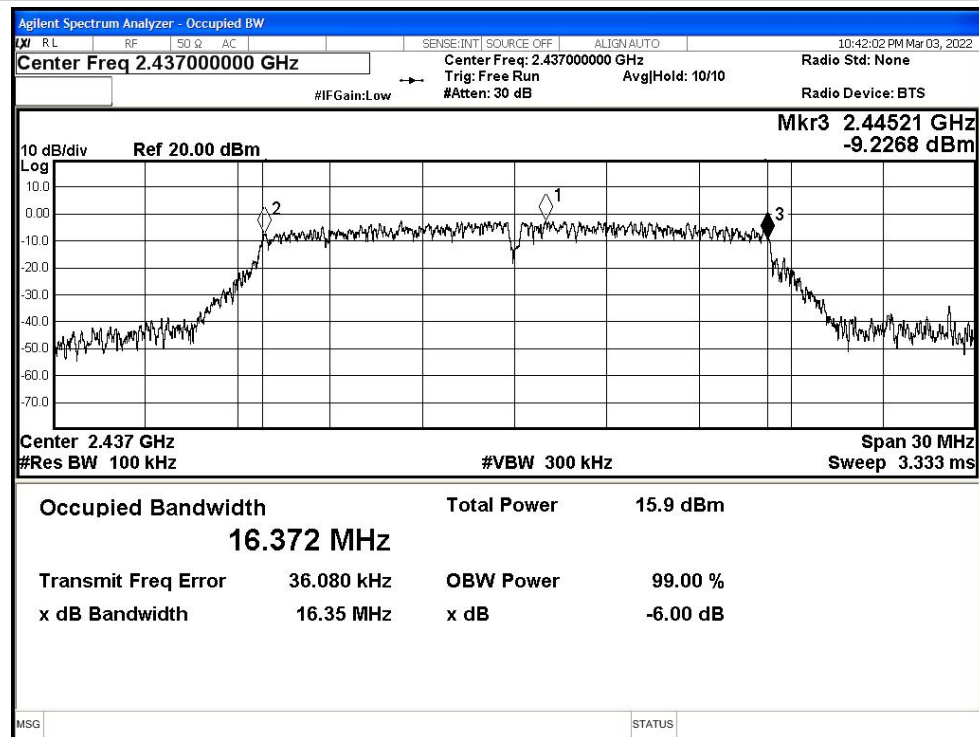


-6dB Bandwidth NVNT g 2412MHz Ant1

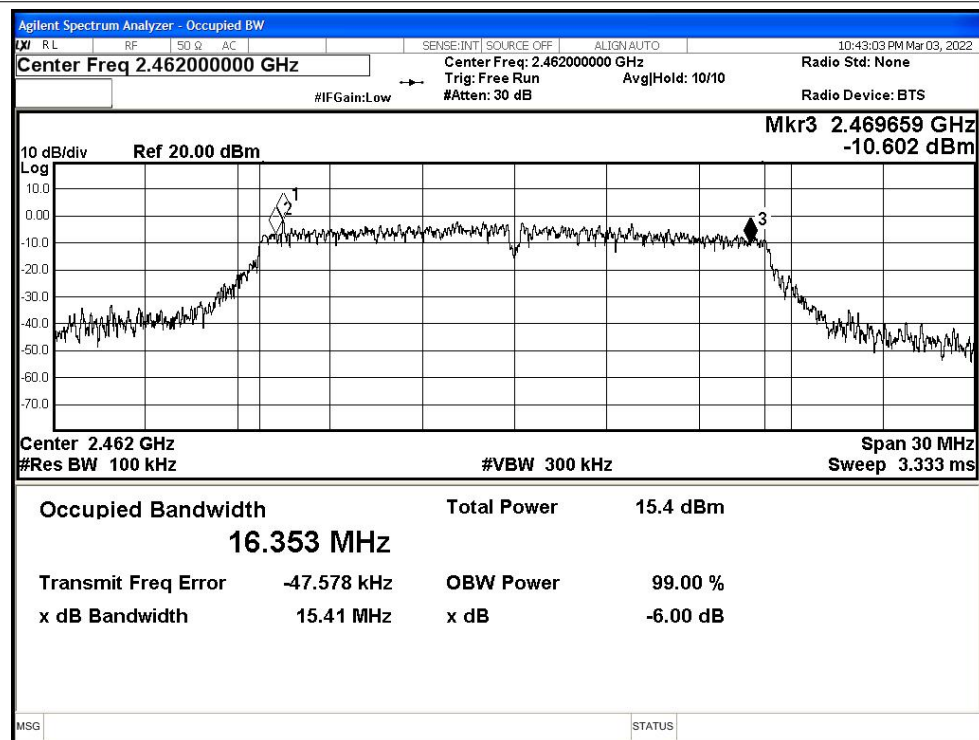




-6dB Bandwidth NVNT g 2437MHz Ant1

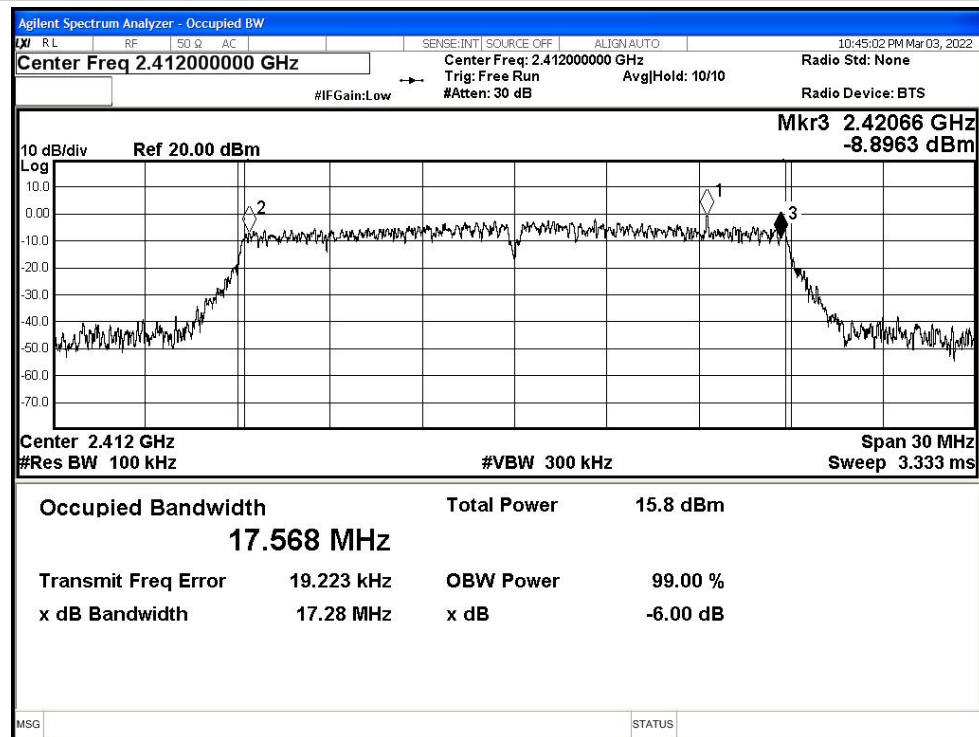


-6dB Bandwidth NVNT g 2462MHz Ant1

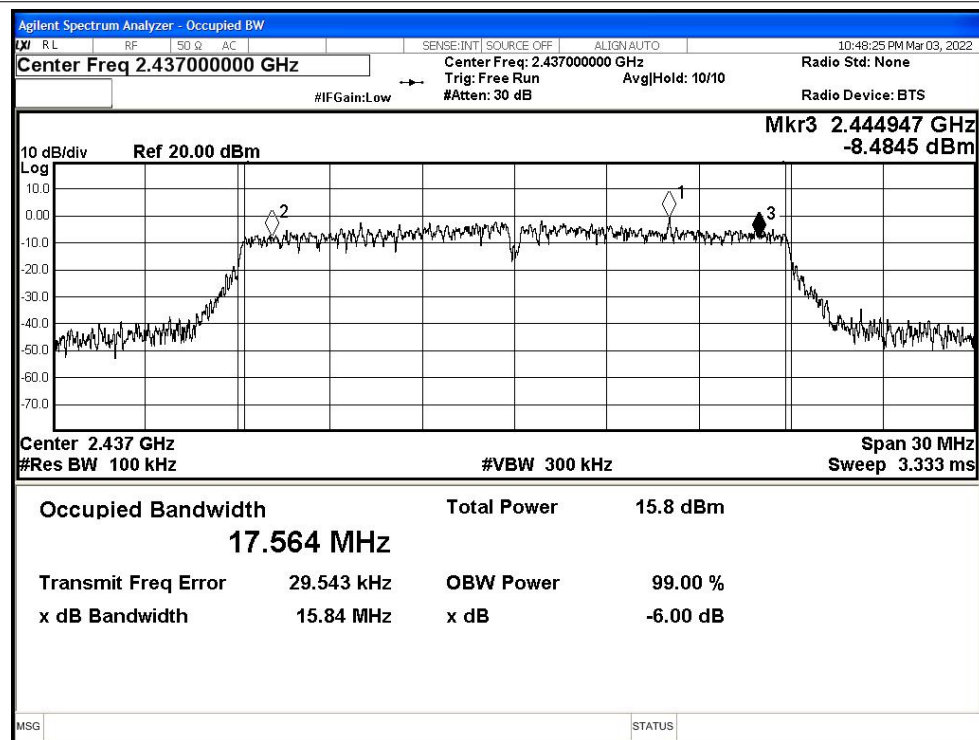


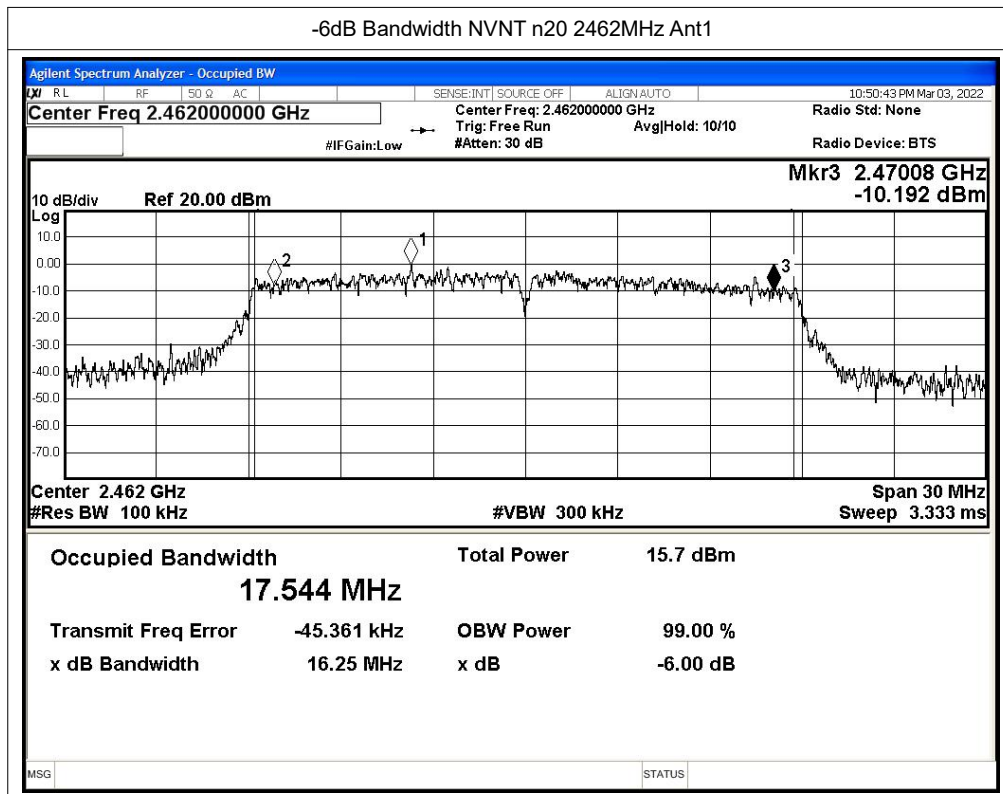


-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1







B.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.69	0	14.69	30	Pass
NVNT	b	2437	Ant1	15.04	0	15.04	30	Pass
NVNT	b	2462	Ant1	14.68	0	14.68	30	Pass
NVNT	g	2412	Ant1	14.5	0	14.5	30	Pass
NVNT	g	2437	Ant1	14.64	0	14.64	30	Pass
NVNT	g	2462	Ant1	14.07	0	14.07	30	Pass
NVNT	n20	2412	Ant1	14.34	0	14.34	30	Pass
NVNT	n20	2437	Ant1	14.68	0	14.68	30	Pass
NVNT	n20	2462	Ant1	14.46	0	14.46	30	Pass



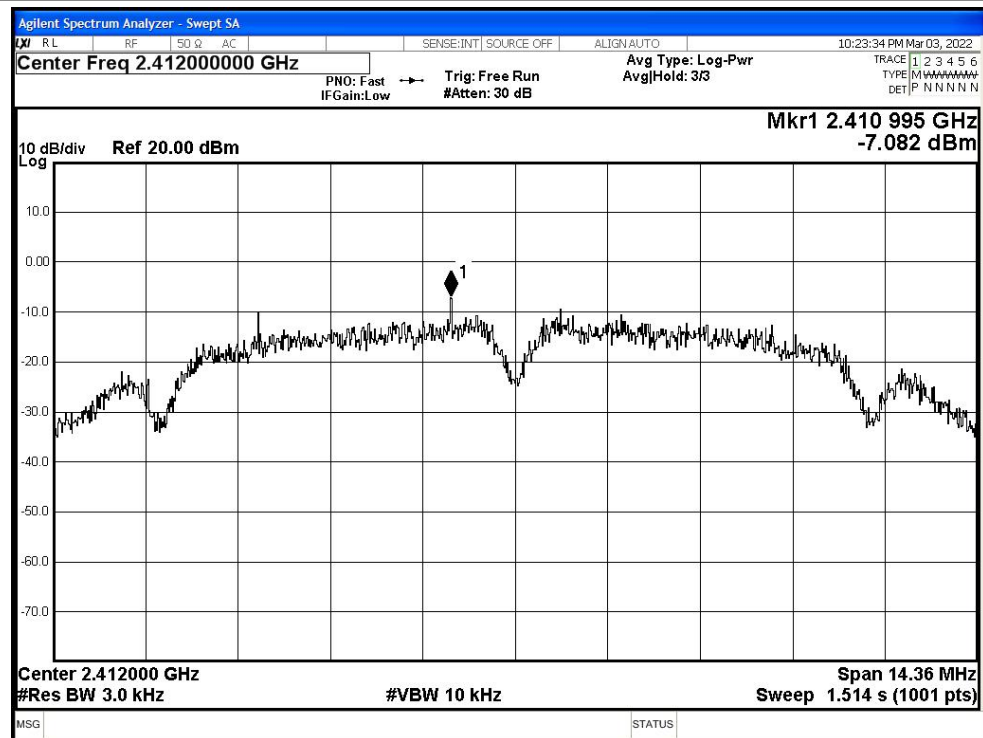
B.3 Power Spectral Density

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-7.08	0	-7.08	8	Pass
NVNT	b	2437	Ant1	-6.42	0	-6.42	8	Pass
NVNT	b	2462	Ant1	-10.07	0	-10.07	8	Pass
NVNT	g	2412	Ant1	-12.84	0	-12.84	8	Pass
NVNT	g	2437	Ant1	-12.62	0	-12.62	8	Pass
NVNT	g	2462	Ant1	-12.78	0	-12.78	8	Pass
NVNT	n20	2412	Ant1	-13.84	0	-13.84	8	Pass
NVNT	n20	2437	Ant1	-12.68	0	-12.68	8	Pass
NVNT	n20	2462	Ant1	-13.06	0	-13.06	8	Pass

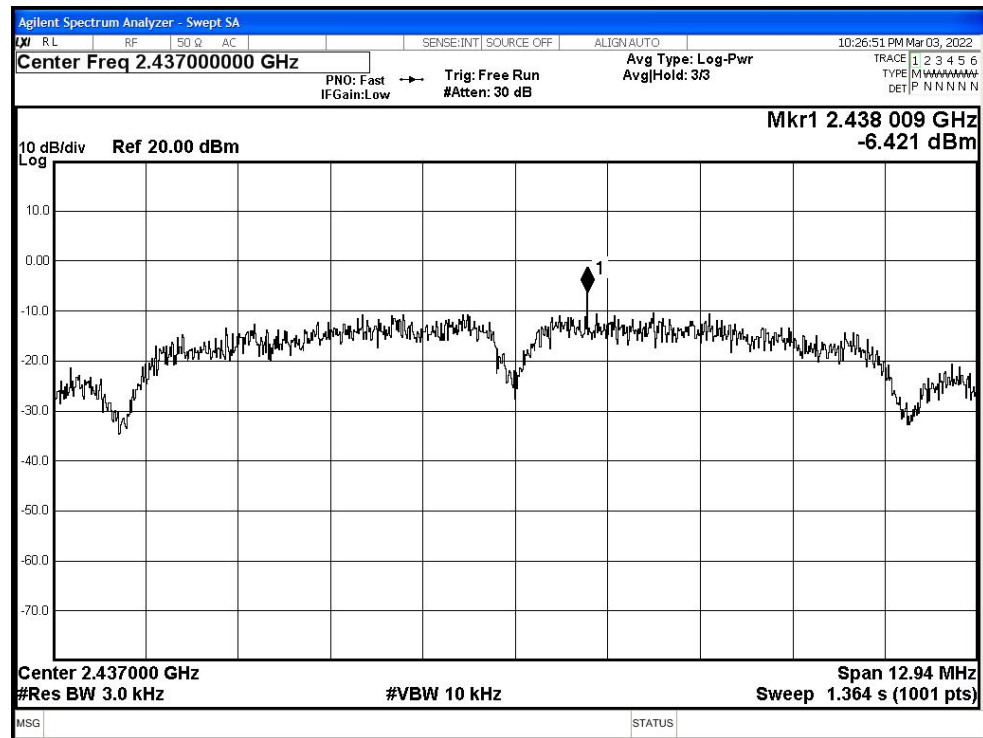


Test Graphs

PSD NVNT b 2412MHz Ant1

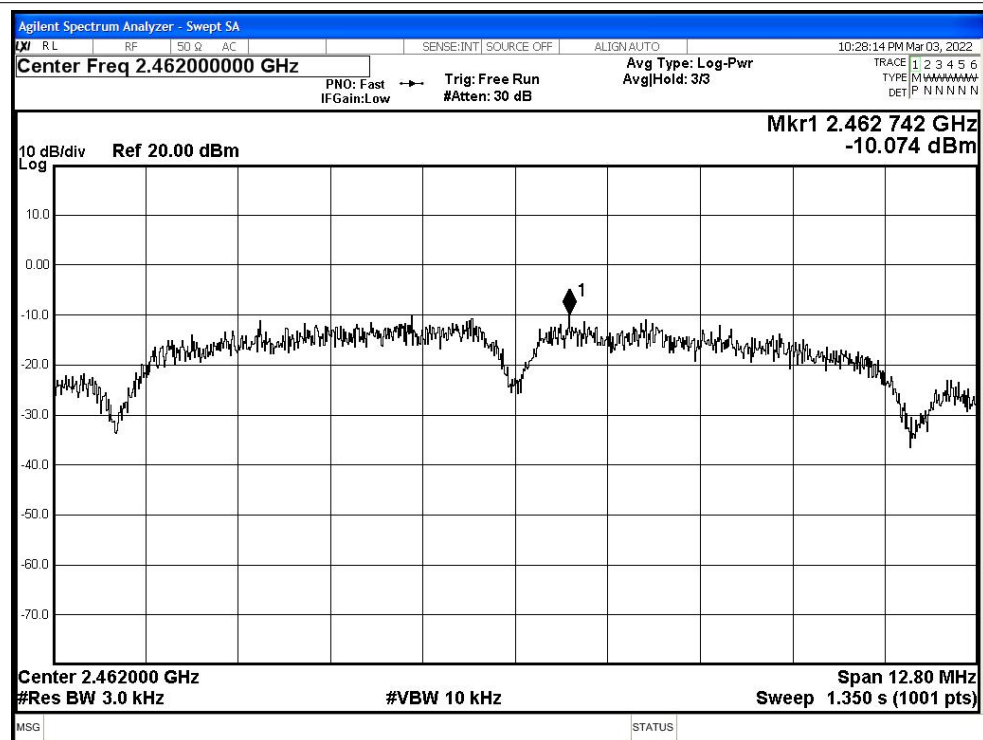


PSD NVNT b 2437MHz Ant1

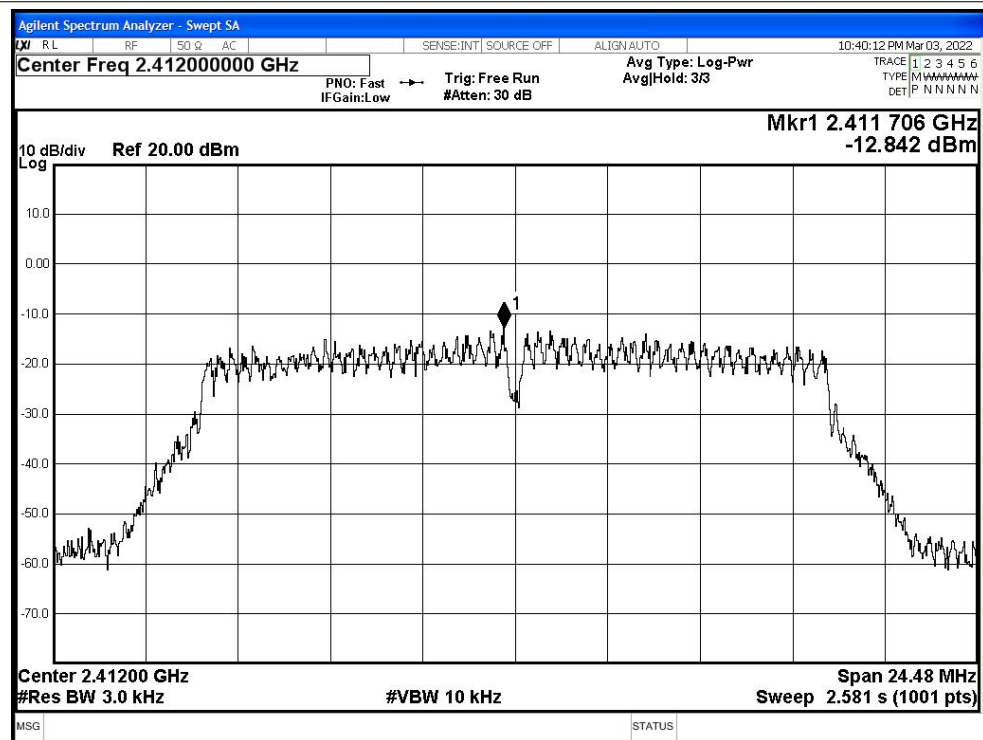




PSD NVNT b 2462MHz Ant1

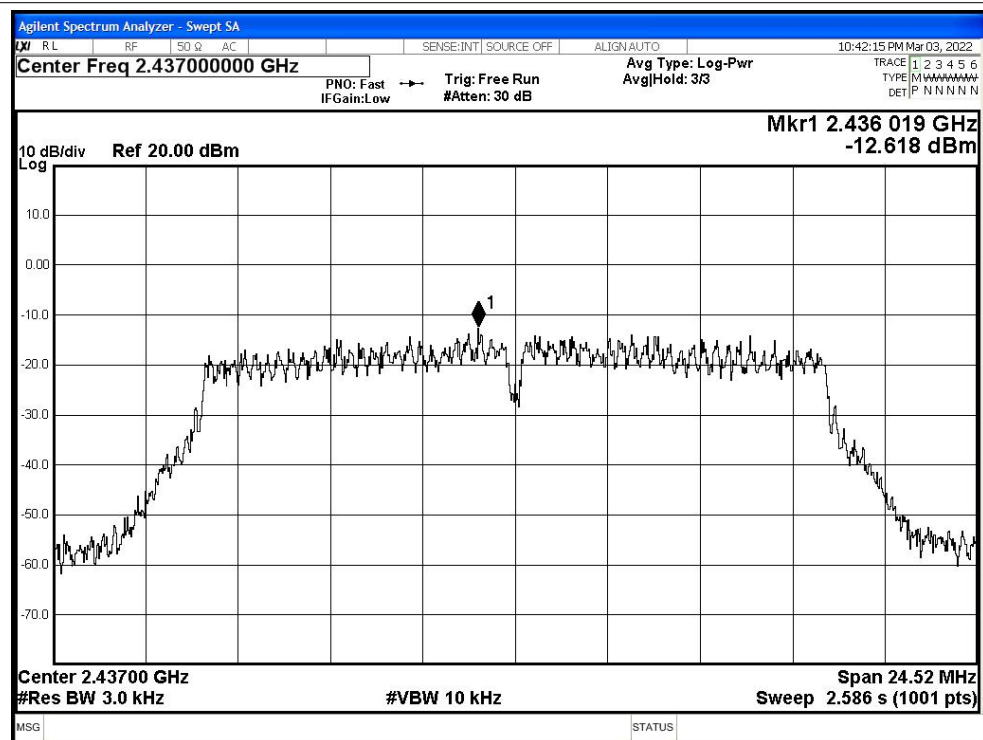


PSD NVNT g 2412MHz Ant1

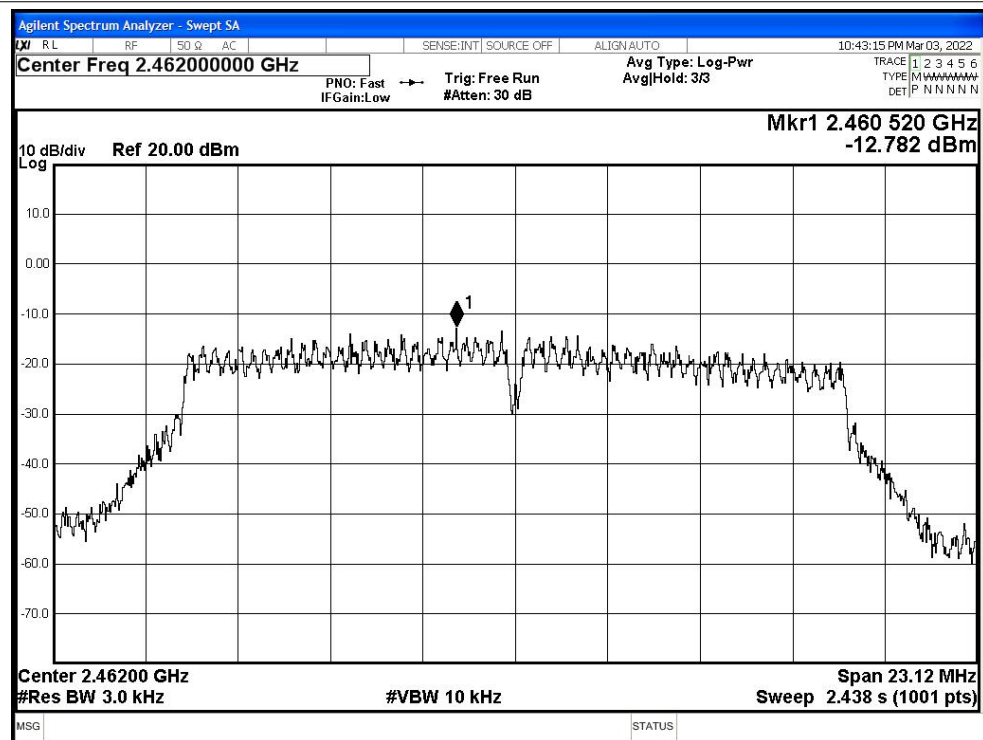




PSD NVNT g 2437MHz Ant1

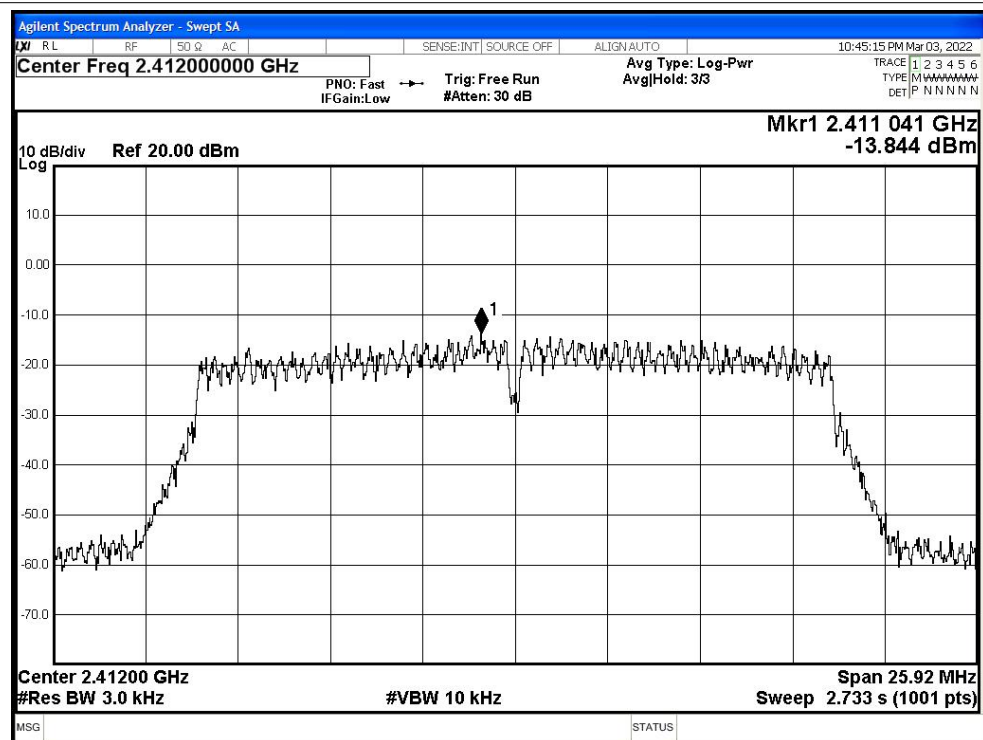


PSD NVNT g 2462MHz Ant1

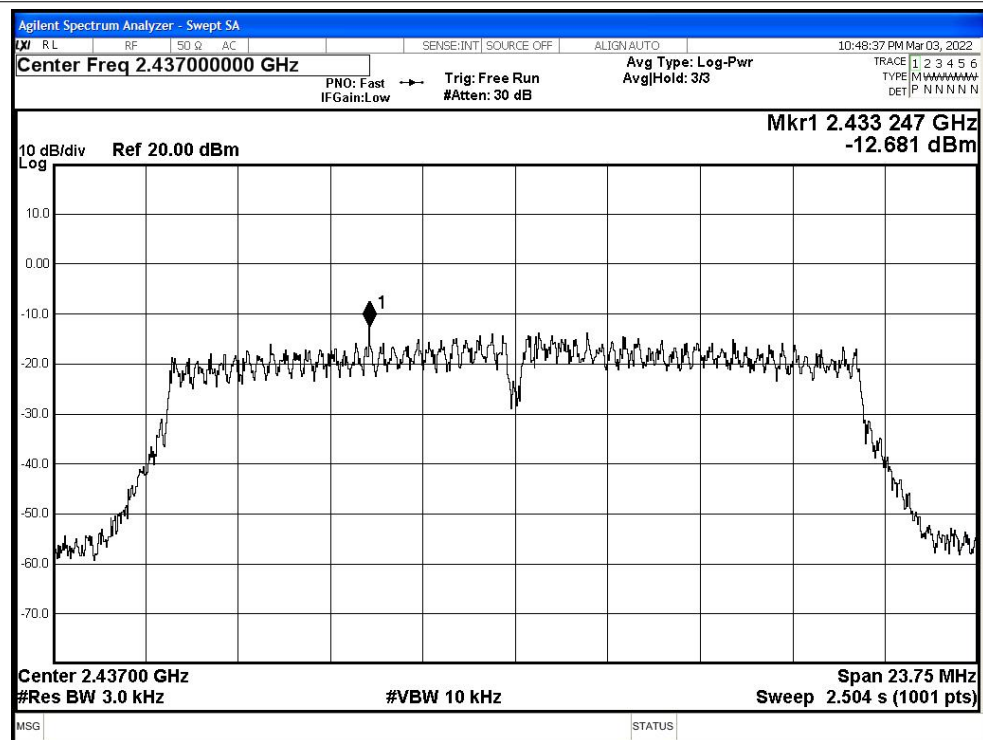


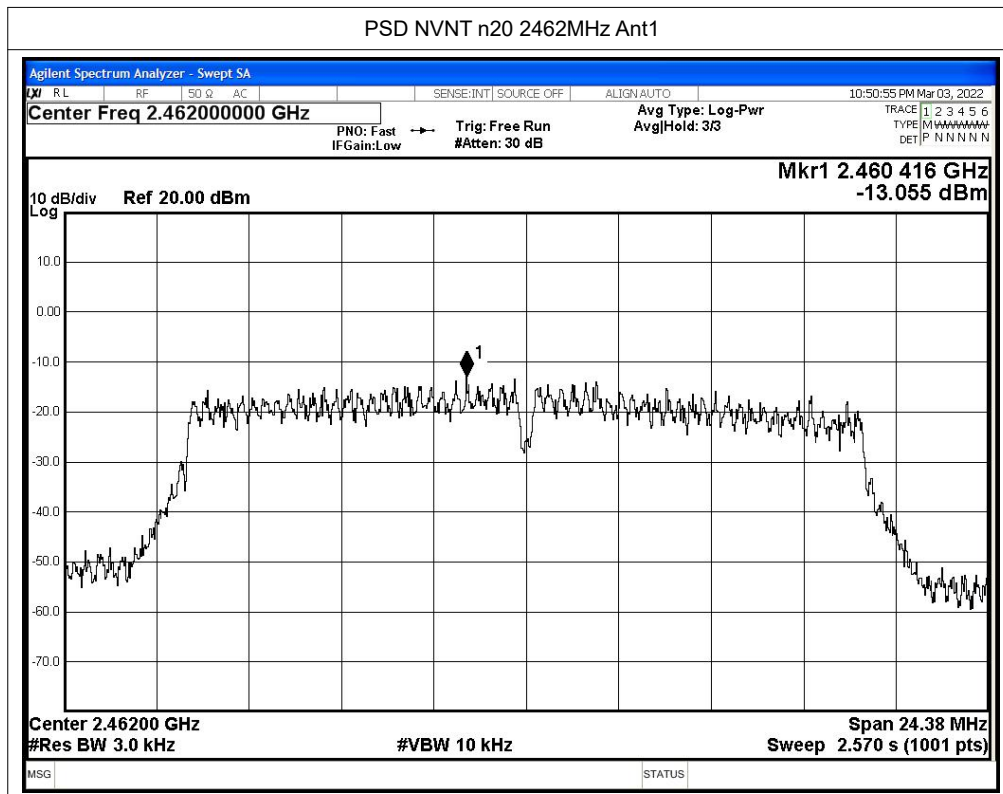


PSD NVNT n20 2412MHz Ant1



PSD NVNT n20 2437MHz Ant1







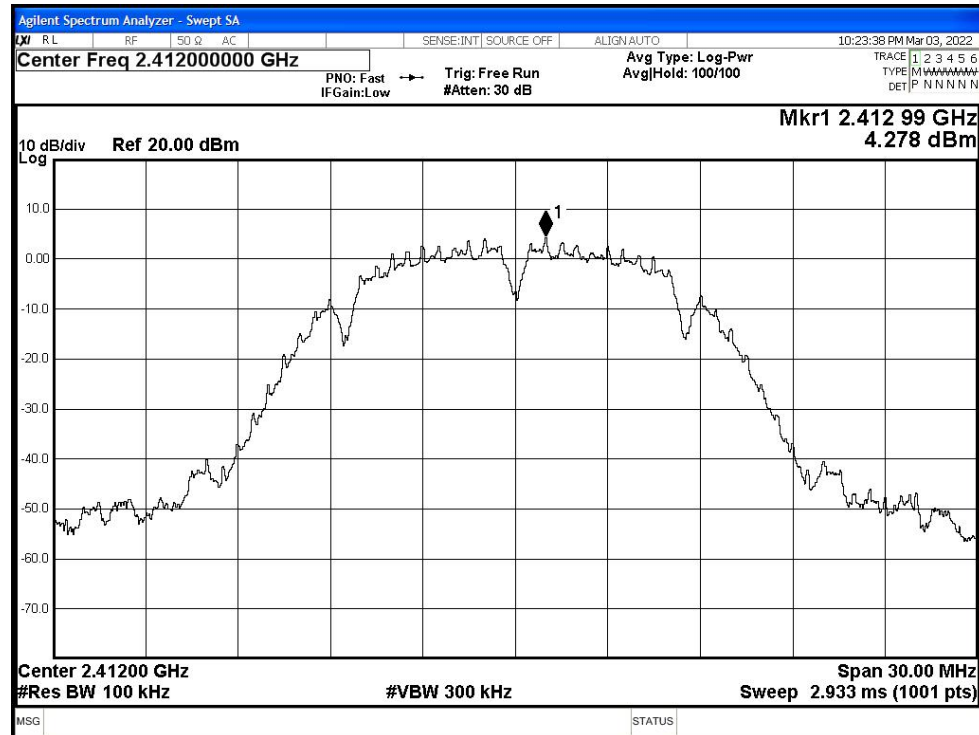
B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-54.3	-20	Pass
NVNT	b	2462	Ant1	-55.65	-20	Pass
NVNT	g	2412	Ant1	-40.6	-20	Pass
NVNT	g	2462	Ant1	-47.46	-20	Pass
NVNT	n20	2412	Ant1	-40.78	-20	Pass
NVNT	n20	2462	Ant1	-47.88	-20	Pass

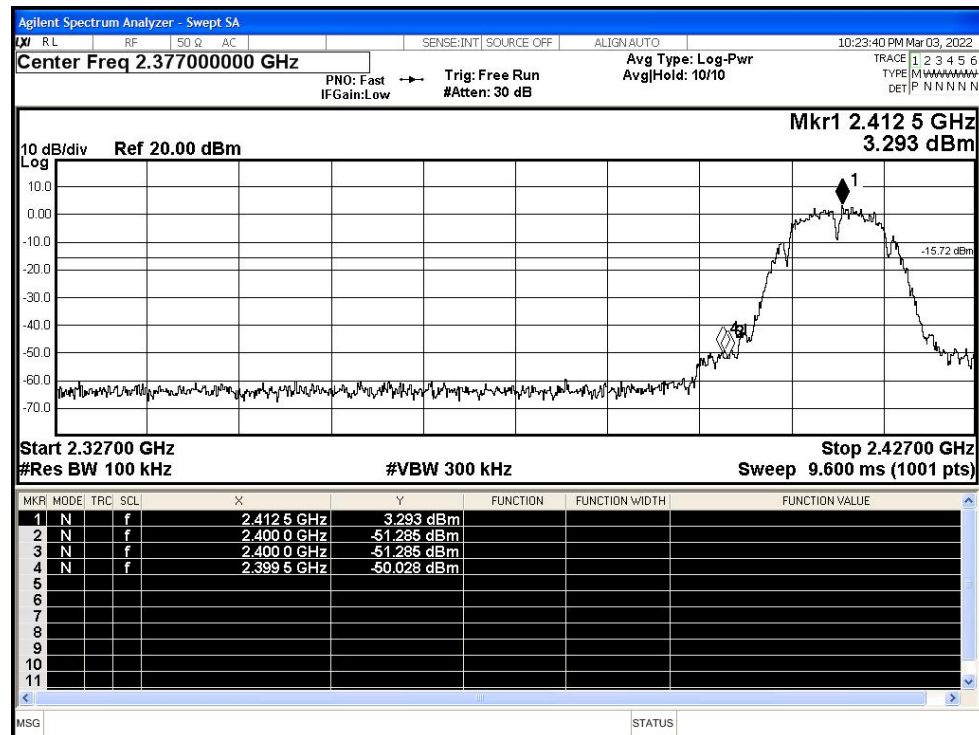


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref

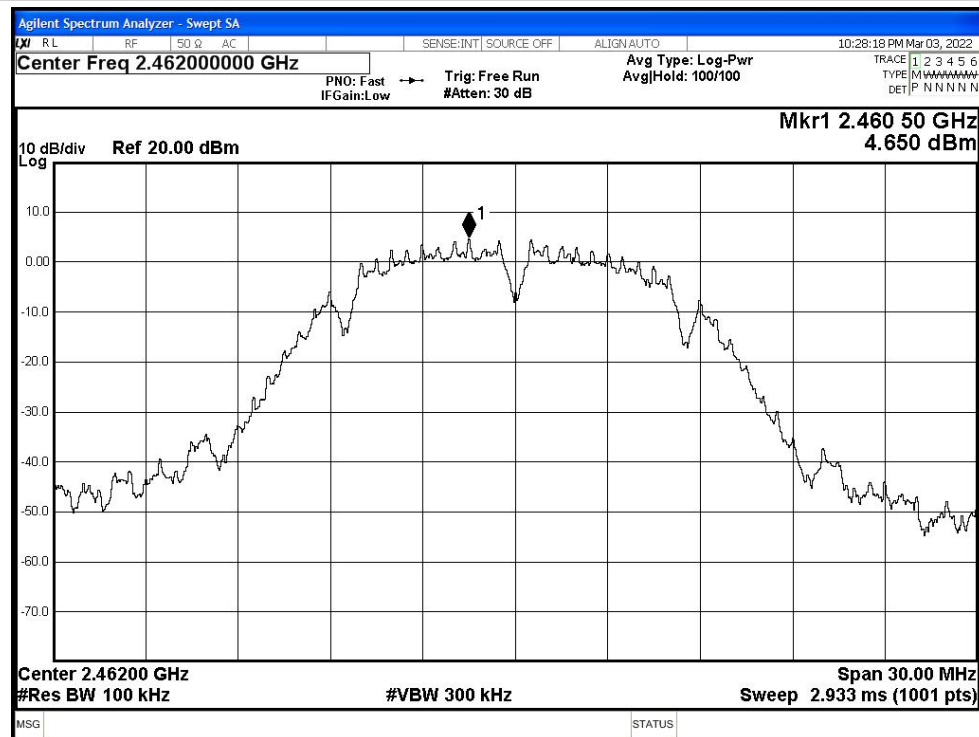


Band Edge NVNT b 2412MHz Ant1 Emission

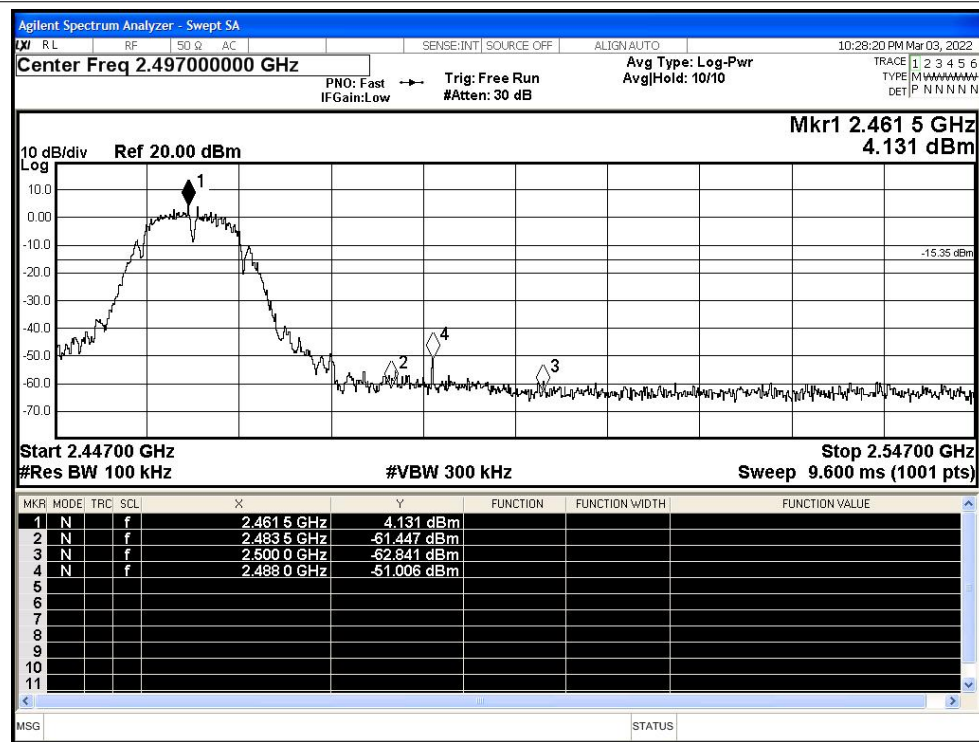




Band Edge NVNT b 2462MHz Ant1 Ref

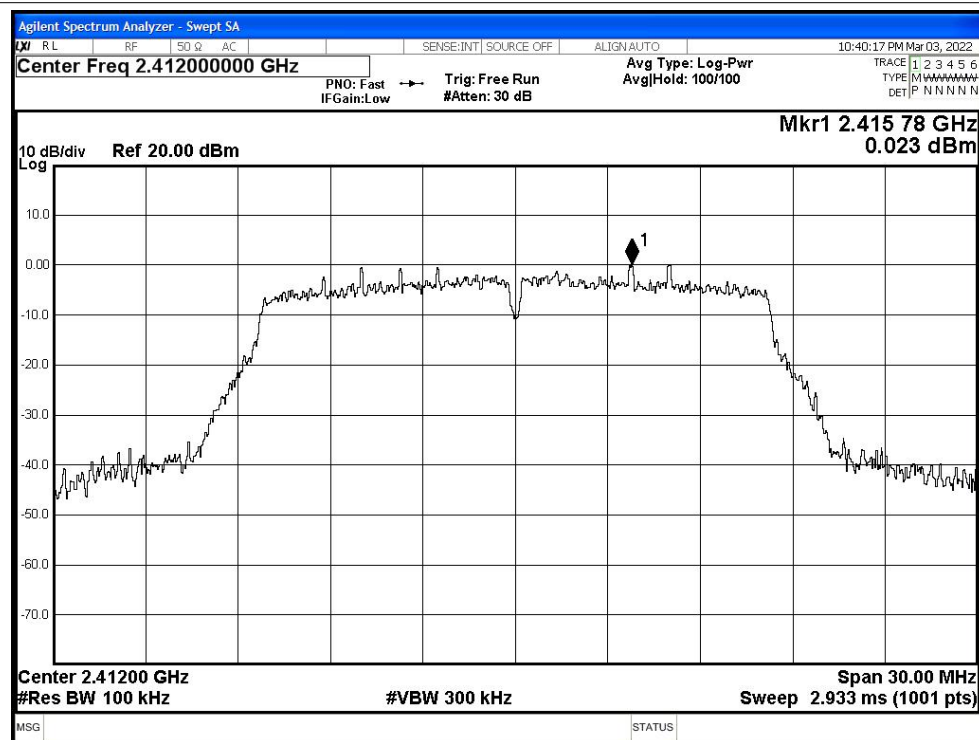


Band Edge NVNT b 2462MHz Ant1 Emission

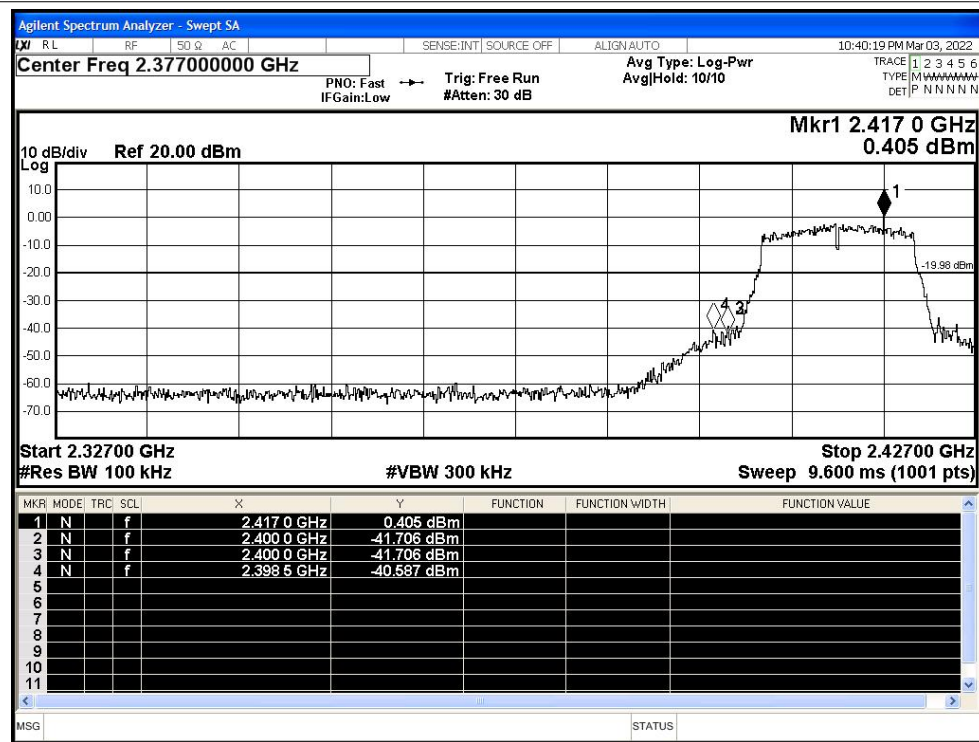




Band Edge NVNT g 2412MHz Ant1 Ref

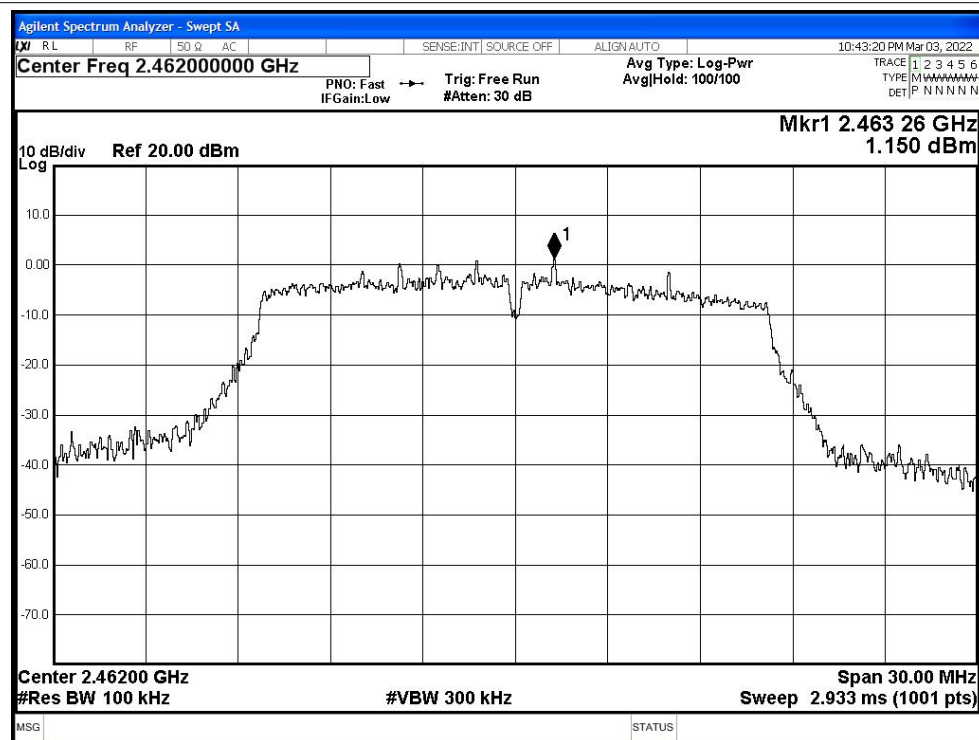


Band Edge NVNT g 2412MHz Ant1 Emission

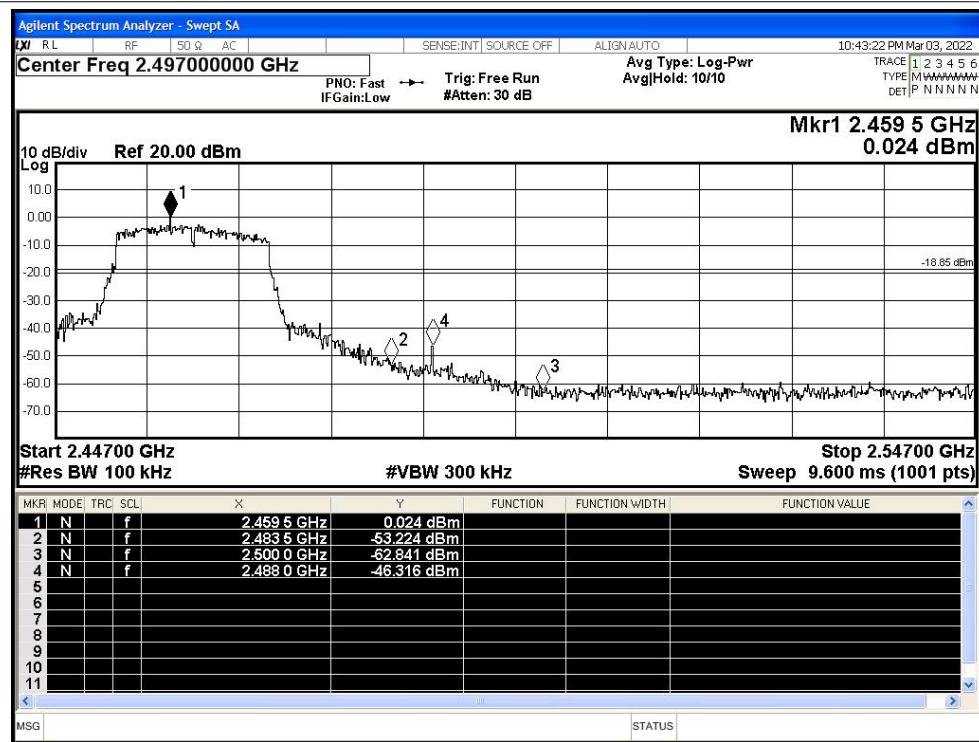




Band Edge NVNT g 2462MHz Ant1 Ref

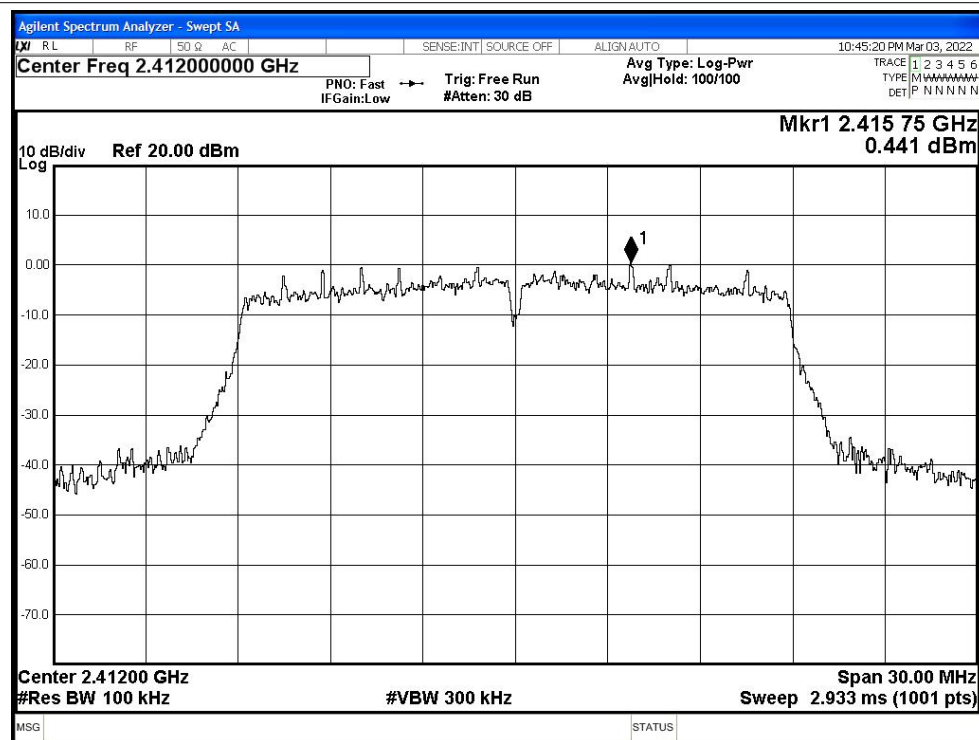


Band Edge NVNT g 2462MHz Ant1 Emission

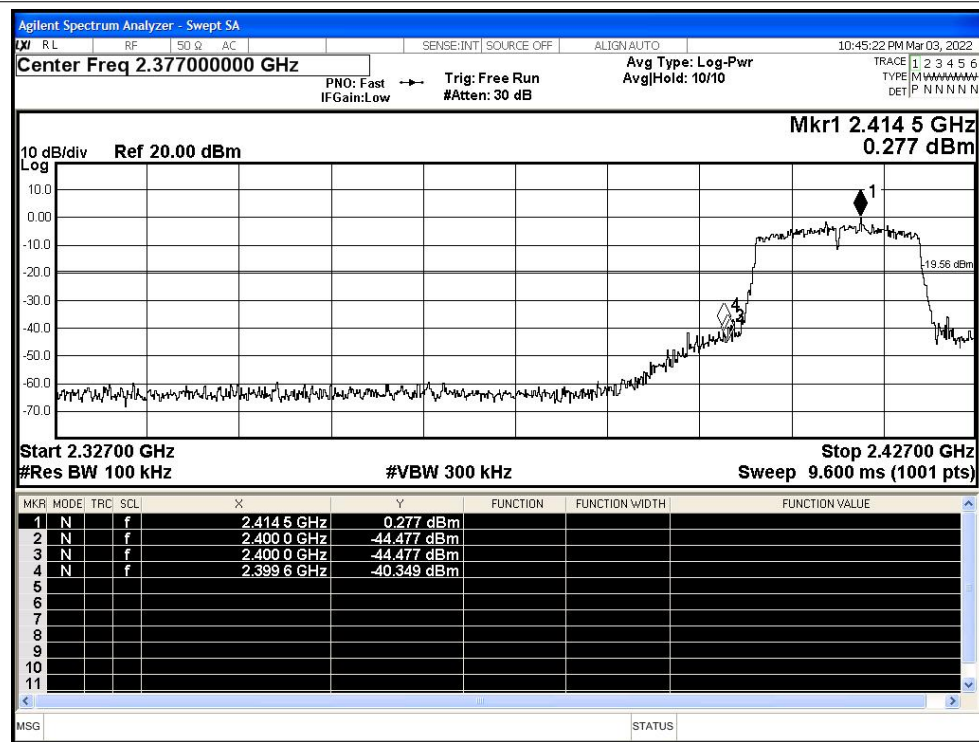




Band Edge NVNT n20 2412MHz Ant1 Ref

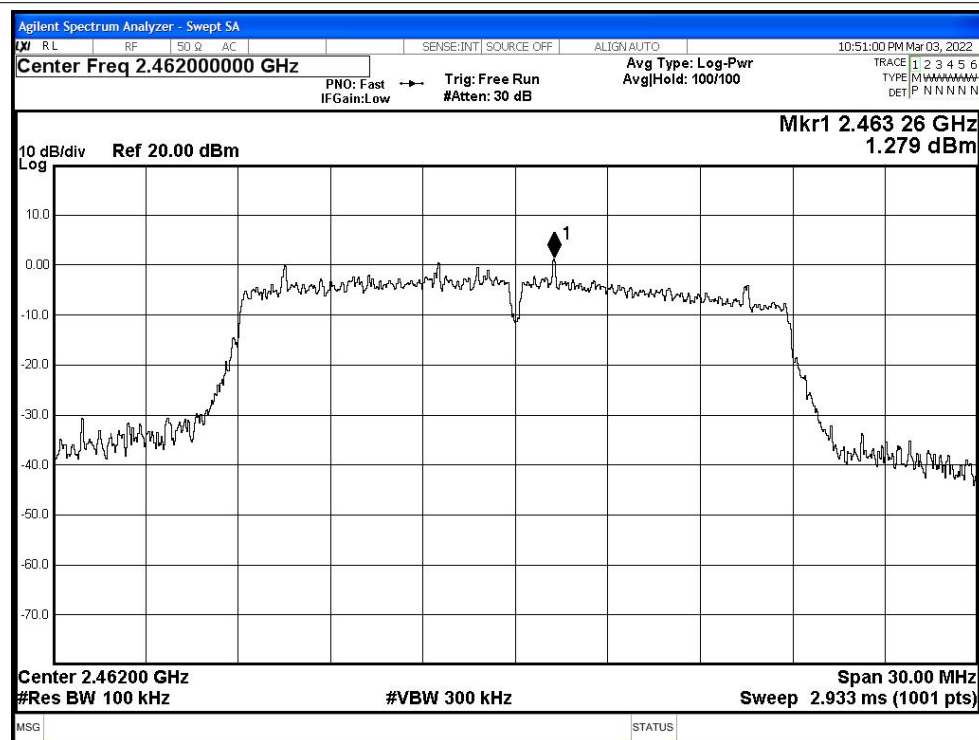


Band Edge NVNT n20 2412MHz Ant1 Emission

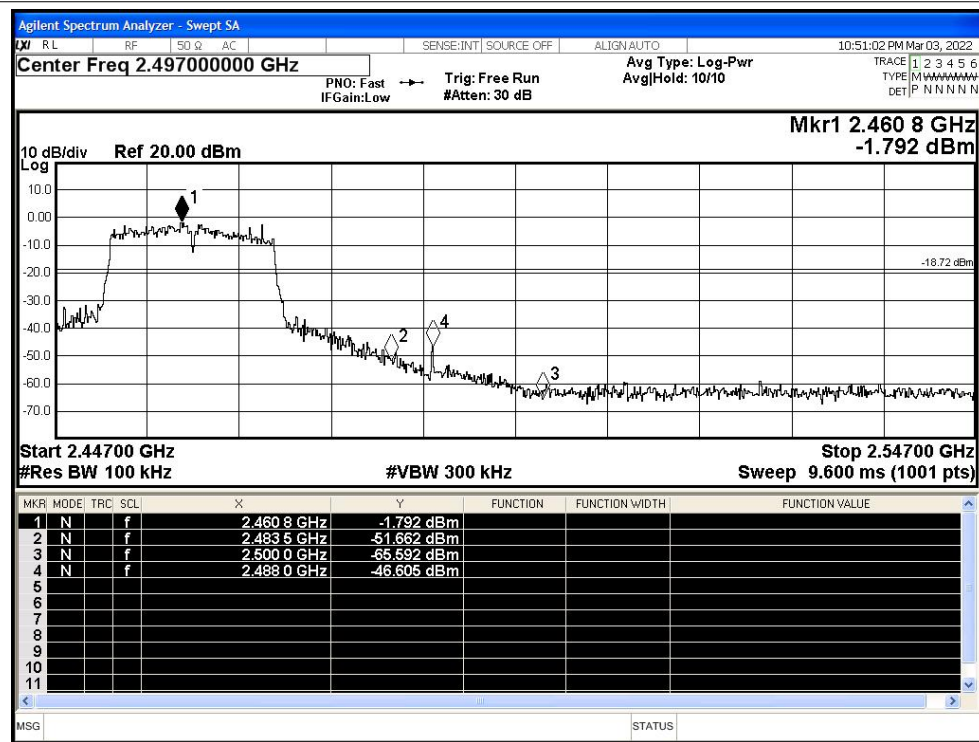




Band Edge NVNT n20 2462MHz Ant1 Ref



Band Edge NVNT n20 2462MHz Ant1 Emission





B.5 Conducted Spurious Emission

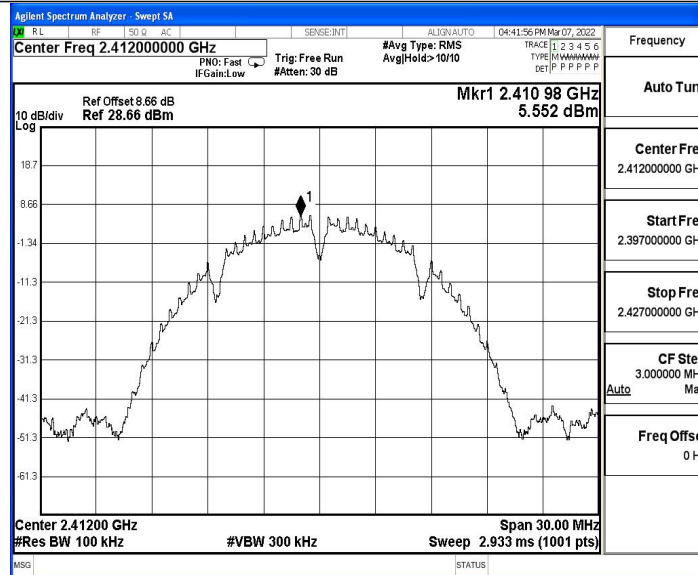
Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
b	Ant1	2412	Reference	5.55	5.55	---	PASS
			30~1000	5.55	-57.64	≤-14.45	PASS
			1000~26500	5.55	-45.92	≤-14.45	PASS
		2437	Reference	4.61	4.61	---	PASS
			30~1000	4.61	-57.79	≤-15.39	PASS
		2462	Reference	4.78	4.78	---	PASS
			30~1000	4.78	-47.34	≤-15.22	PASS
			1000~26500	4.78	-45.59	≤-15.22	PASS
g	Ant1	2412	Reference	-2.11	-2.11	---	PASS
			30~1000	-2.11	-47.4	≤-22.11	PASS
			1000~26500	-2.11	-45.97	≤-22.11	PASS
		2437	Reference	-3.49	-3.49	---	PASS
			30~1000	-3.49	-53.25	≤-23.49	PASS
			1000~26500	-3.49	-45.76	≤-23.49	PASS
		2462	Reference	-3.00	-3.00	---	PASS
			30~1000	-3.00	-50.47	≤-23	PASS
			1000~26500	-3.00	-46.56	≤-23	PASS
n20	Ant1	2412	Reference	-3.45	-3.45	---	PASS
			30~1000	-3.45	-40.42	≤-23.45	PASS
			1000~26500	-3.45	-45.94	≤-23.45	PASS
		2437	Reference	-4.11	-4.11	---	PASS
			30~1000	-4.11	-54.72	≤-24.11	PASS
			1000~26500	-4.11	-46.47	≤-24.11	PASS
		2462	Reference	-4.10	-4.10	---	PASS
			30~1000	-4.10	-55.41	≤-24.1	PASS
			1000~26500	-4.10	-46.14	≤-24.1	PASS

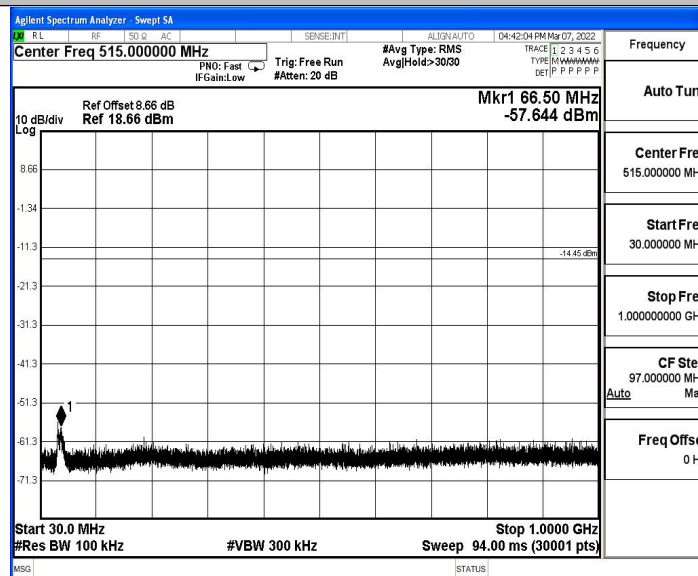


Test Graphs

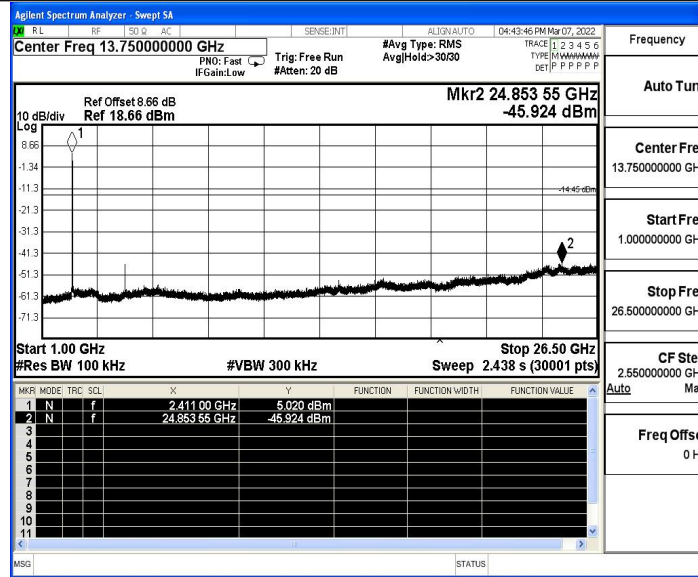
b_Ant1_2412_0~Reference



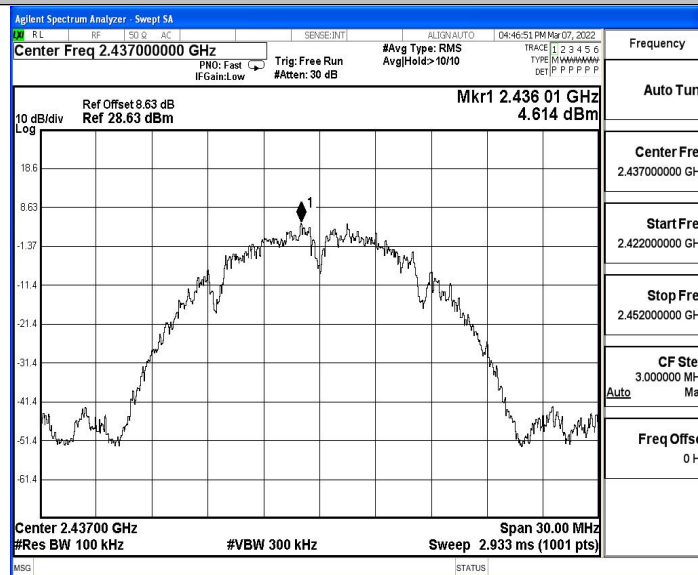
b_Ant1_2412_30~1000



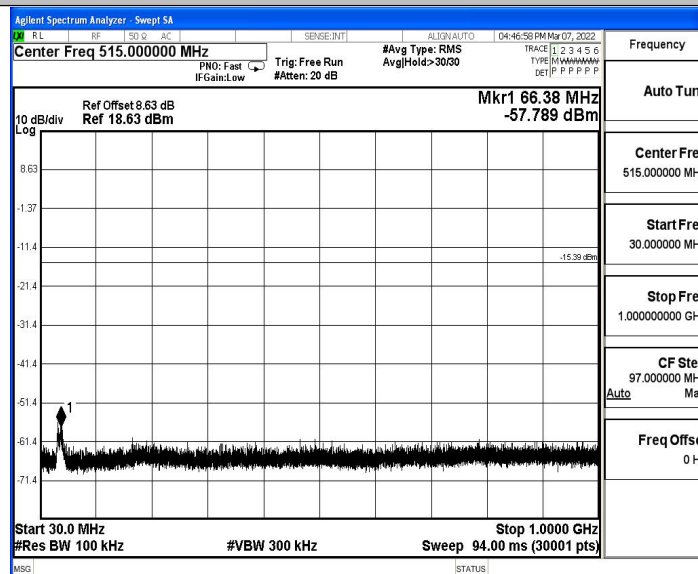
b_Ant1_2412_1000~26500



b_Ant1_2437_0~Reference

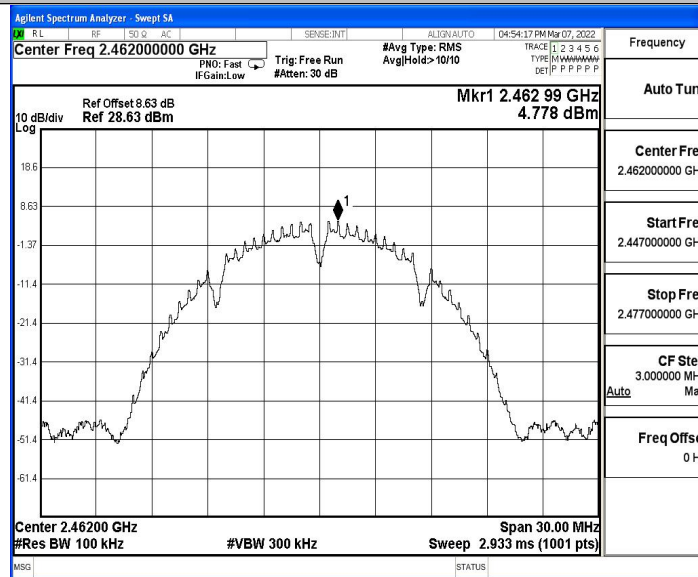


b_Ant1_2437_30~1000

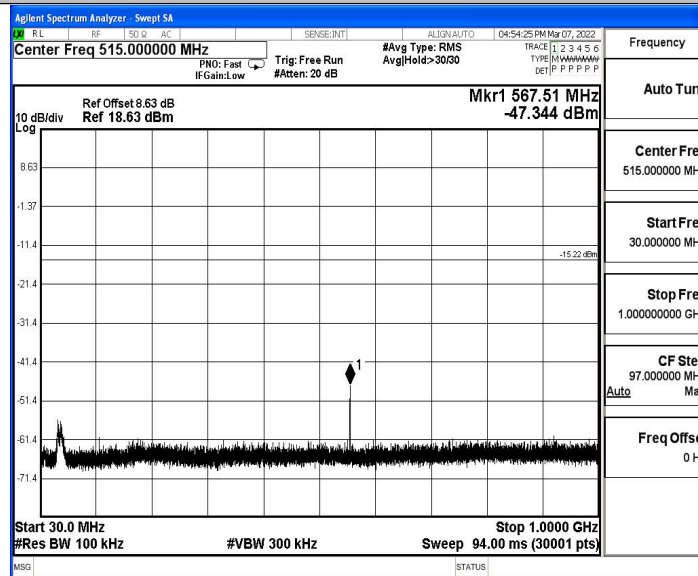




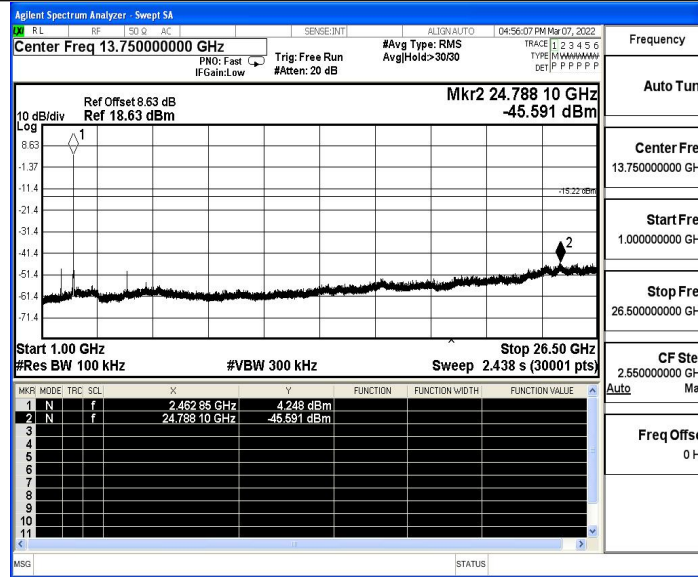
b_Ant1_2462_0~Reference



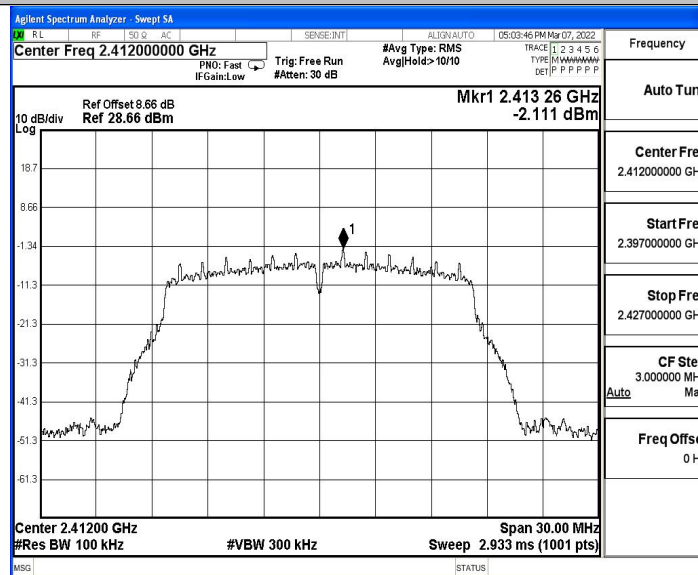
b_Ant1_2462_30~1000



b_Ant1_2462_1000~26500



g_Ant1_2412_0~Reference



g_Ant1_2412_30~1000

